

# Koźlak dubeltowy wędzony na mistrzostwa 06/11/2020

- Gravity **20.7 BLG**
- ABV **9.2 %**
- IBU **21**
- SRM **21.5**
- Style **Doppelbock**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **22.8 liter(s)**
- Total mash volume **31.9 liter(s)**

## Steps

- Temp **50 C**, Time **1 min**
- Temp **65 C**, Time **30 min**
- Temp **72 C**, Time **30 min**
- Temp **78 C**, Time **5 min**

## Mash step by step

- Heat up **22.8 liter(s)** of strike water to **56C**
- Add grains
- Keep mash **1 min** at **50C**
- Keep mash **30 min** at **65C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **12.7 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

| Type  | Name                             | Amount         | Yield | EBC  |
|-------|----------------------------------|----------------|-------|------|
| Grain | Słód Wędzony Steinbach           | 3 kg (32.9%)   | 80 %  | 5    |
| Grain | Monachijski                      | 3.5 kg (38.4%) | 80 %  | 16   |
| Grain | Weyermann - Carafa II Special    | 0.17 kg (1.9%) | 70 %  | 1150 |
| Grain | Maris Otter Crisp                | 1.5 kg (16.4%) | 83 %  | 6    |
| Grain | Słód Caramunich Typ II Weyermann | 0.5 kg (5.5%)  | 73 %  | 120  |
| Grain | Strzegom Monachijski typ II      | 0.45 kg (4.9%) | 79 %  | 22   |

## Hops

| Use for             | Name        | Amount | Time   | Alpha acid |
|---------------------|-------------|--------|--------|------------|
| Boil                | Mittel fruh | 50 g   | 60 min | 4.6 %      |
| Aroma (end of boil) | Hersbrucker | 45 g   | 5 min  | 3 %        |

## Yeasts

| Name | Type | Form | Amount | Laboratory |
|------|------|------|--------|------------|
|------|------|------|--------|------------|

|       |       |       |        |           |
|-------|-------|-------|--------|-----------|
| 34/70 | Lager | Slant | 350 ml | Fermentis |
|-------|-------|-------|--------|-----------|

### Extras

| Type   | Name           | Amount | Use for | Time   |
|--------|----------------|--------|---------|--------|
| Fining | mech irlandzki | 5 g    | Boil    | 10 min |